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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Letters Patent of:	
Mueller	Application No.: **10/645,327**
Patent No.: **7,014,014**	Examiner: **A. Salata**
Issued: **March 21, 2006**	Art Unit: **2837**

For: **SAFETY DEVICE FOR MONITORING A MOVABLE ELEMENT**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
ATTENTION: Certificate of Correction Branch

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 ATTENTION: Certificate of Correction Branch on May 23, 2006.

By: Carol Prentice
CAROL PRENTICE

REQUEST FOR CERTIFICATE OF CORRECTION PURSUANT TO 37 C.F.R. §1.322

Dear Sir:

Transmitted herewith is a Certificate of Correction for U.S. Patent No. 7,014,014, which issued March 21, 2006. Upon reviewing the patent, the patentee noted a minor typographical error in claim 9. Specifically, the "s" at the end of the word "pistons" should be deleted.

A Certificate of Correction is enclosed, and reads as follows:

Column 10, line 37

Delete the "s" at the end of the word "pistons".

Enclosed is a copy of Patentee's Amendment filed on September 23, 2005 evidencing the requested correction in claim 9.

Since the error for which a Certificate of Correction is sought was the result of Patent and Trademark Office mistake, no fee is due (35 U.S.C. §254). The issuance of the enclosed Certificate of Correction is therefore respectfully requested.

Attached hereto, in duplicate, is Form PTO-1050, with at least one copy being suitable for printing.

Please send the Certificate to Patentee's undersigned representative.

Respectfully submitted,

Douglas M. McAllister
Attorney for Applicant(s)
Registration No. 37,886
Lipsitz & McAllister, LLC
755 Main Street, Bldg. 8
Monroe, CT 06468
(203) 459-0200

ATTORNEY DOCKET NO.: HOE-770
Date: May 23, 2006

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	)	
W. Mueller	)	Examiner: A. Salata
	)	
Serial No.: 10/645,327	)	Art Unit: 2837
	)	
Filed: August 21, 2003	)	
	)	

For: **SAFETY DEVICE FOR MONITORING A MOVABLE ELEMENT**

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first-class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on: September 21, 2005.

Signature: Carol Prentice
Carol Prentice

AMENDMENT

Dear Sir:

This Amendment is responsive to the Office Action mailed on August 4, 2005. Please amend the above-identified U.S. patent application as follows:

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims which begins on page 3 of this paper.

Amendments to the Drawings are set forth on page 8 of this paper.

Remarks are set forth on page 9 of this paper.

Amendments to the Specification:

Amend the title of the invention (page 1, line 1) to read as follows:

Safety Device for Monitoring a Movable Element ~~movable Elements, in particular, Elevators~~

Delete the Abstract (page 23, lines 2-20) and substitute the following new Abstract:

A safety device for monitoring a movable element, in particular, for elevators, is provided. The safety device includes a speed determination unit for determining the speed of the movable element, a comparator device for comparing a predetermined speed with the determined, actual value, a triggering unit for triggering a braking device, and a distance determination unit for determining the distance of the movable element in relation to a stationary or movable target. The comparator device comprises a memory for storing a maximum admissible speed and at least one nominal distance with an associated nominal speed. The comparator device compares a greatest stored nominal distance with an actual distance indicated by the distance determination unit. When the nominal distance is the same as the actual distance, the comparator device compares the nominal speed associated with the nominal distance with the actual speed registered by the speed determination unit at this point of time. When the nominal speed is exceeded the comparator device causes the triggering unit to emit an electronic triggering signal. The comparator device continuously compares the maximum admissible speed with the actual speed irrespective of nominal distances and when the maximum admissible speed is exceeded causes the triggering unit to emit the electronic triggering signal.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) Safety device for monitoring a movable element, in particular, for ~~e levators~~ elevators ~~and preferably for arrangement on an elevator car~~, comprising:

a speed determination unit for determining the speed of the movable element,

a comparator device for comparing a predetermined speed with the determined, actual value, ~~and~~

a triggering unit for triggering a braking device, and

~~wherein the safety device comprises in addition~~ a distance determination unit for determining the distance of the movable element in relation to a stationary or movable target,

wherein:

the comparator device comprises a memory for storing a maximum admissible speed and at least one nominal distance with~~, in particular,~~ an associated nominal speed,

~~wherein~~ the comparator device compares ~~first of all the~~ a greatest stored nominal distance with ~~the~~ an actual distance indicated by the distance determination unit; and

when the nominal distance is the same as the actual distance, the comparator device compares the nominal speed associated with the nominal distance with the actual speed registered by the speed determination unit at this point of time; ~~and~~

when the nominal speed is exceeded the comparator device causes the triggering unit to emit an electronic triggering signal; and ~~, and wherein~~

the ~~intelligent~~ comparator device continuously compares the maximum admissible speed with the actual speed irrespective of nominal distances and when the maximum admissible speed is exceeded ~~likewise~~ causes the triggering unit to emit ~~an~~ the electronic triggering signal.

2. (Currently amended) Safety device as defined in claim 1, wherein the speed determination unit comprises a pulse counter registering the codings on an encoder disc driven with ~~the~~ a speed to be registered via a friction wheel or a cable.

3. (Currently amended) Safety device as defined in claim 1, wherein at least one of the distance determination unit and/~~or~~ speed determination unit comprises at least one of radar and/~~or~~ laser sensors.

4. (Currently amended) Safety device as defined in claim 1, ~~wherein the safety device comprises in addition~~ further comprising:

at least one of a position determination device for determining the position of the movable element ~~to be monitored by the speed governor~~ and/~~or~~ a direction indicator for determining the direction of movement.

5. (Currently amended) Safety device as defined in claim ~~1~~ 4, wherein the distance determination unit ~~device~~, the position determination device and/or the direction indicator use and/or exchange with one another the data generated by the speed determination unit.

6. (Currently amended) Safety device as defined in claim 1, wherein:

the memory is able to store nominal distances with a respectively associated nominal speed as a function of ~~the~~ respective destinations, ~~wherein~~

the comparator device is given the destinations and in accordance with ~~the~~ a selected destination reads out the ~~dependent~~ respective nominal distances with associated nominal speeds for the nominal-actual comparison, and

the comparator doubles the nominal distance in the case of two ~~ears~~ movable elements traveling towards one another in the same shaft.

7. (Currently amended) Safety device as defined in claim 6, wherein:

the distance determination unit ~~device~~ is designed such that it is able to register the position, direction and the distance of the ~~car~~ movable element in relation to a stationary or movable target, ~~wherein in addition~~ and

safety distances with associated maximum speeds stored in the memory are called up dependent on the destination, the triggering signal being activated when said safety distances are exceeded.

8. (Currently amended) Safety device as defined in claim 1, wherein the triggering unit comprises ~~in addition~~ a pyrotechnical final control element, said element being triggered by the electronic triggering signal.

9. (Currently amended) Safety device as defined in claim 8, wherein the pyrotechnical final control element comprises:

a tube with a built-in thrust or pressure piston, ~~and~~

at least one~~, preferably several,~~ explosive charges ignitable electrically, ~~in particular, individually as well as, in particular,~~ and

a sensor ~~reporting the~~ for sensing actuation of the final control element.

10. (Currently amended) Safety device as defined in claim 8, wherein the pyrotechnical final control element is integrated in a housing with at least one of the speed determination unit, the distance determination unit, the comparator device, the position determination unit and~~/or~~ the triggering unit or integrated in the braking device to be actuated~~, in particular, in a safety gear for elevators~~.

11. (Currently amended) Safety device as defined in claim 1, wherein:

the safety device is constructed with at least two stages, ~~namely in such a manner that at least one additional~~ and

a speed governor unit with ~~an~~ at least a second independent speed determination unit and a second comparator device is provided.

2005

12. (Currently amended) Safety device as defined in claim 11, wherein:

the ~~additional~~ speed governor unit is formed by a conventional mechanical speed governor driven~~, in particular,~~ by a cable, and

said governor ~~monitoring and limiting~~ monitors and limits the ~~absolute~~ maximum speed.

13. (Currently amended) Safety device as defined in claim 12, wherein:

the triggering unit comprises a rocker means for triggering a braking device, and

said braking device is activated, on the one hand, by means of the mechanical speed governor unit and, on the other hand, by an electrically actuatable final control element.

14. (Currently amended) Safety device as defined in claim 1, ~~wherein the safety device comprises in addition~~ further comprising:

a data transmitting and/or receiving unit exchanging ~~data, in particular,~~ position and movement data with an external information system, ~~in particular,~~

said external information system comprising a shaft information system ~~preferably~~ with position sensors in the elevator shaft or adjacent safety devices.

15. (Currently amended) Safety device as defined in claim 1, ~~wherein it comprises as part of~~ the braking device ~~to be triggered by the triggering unit~~ further comprises:

at least one of safety brakes ~~gears arranged in parallel and/or serially~~ and~~/or~~ instantaneous safety gears for both directions of travel.

16. (Currently amended) Safety device as defined in claim 1, ~~wherein it comprises in addition~~ further comprising:

a test device~~, the safety device being able~~ adapted to trigger the braking device as a trial in a predetermined position and/or speed of the movable element ~~to be monitored with the activation of said test device~~.

17. (Currently amended) Safety device as defined in claim 1, wherein:

the triggering unit is adapted to be activated in a remote-controlled manner, and ~~wherein, in particular,~~

a second rocker means is provided for the remote triggering, said rocker means being offset, in particular, through 180°.

18. (Currently amended) Safety device as defined in claim 1, wherein:

the safety device has ~~in addition~~ a backup memory for separately saving ~~saved, in particular, separately, all the~~ data relevant to safety ~~being stored in said backup memory, in particular, changing data being~~

said data stored in said backup memory being updated at intervals.

19. (Currently amended) Safety device as defined in claim 1, ~~wherein the safety device comprises~~ further comprising:

an emergency supply of energy~~, in particular,~~ in the form of a battery.

20. (Currently amended) Safety device as defined in claim 1, ~~wherein the safety device comprises in addition~~ further comprising:

a storage unit ~~for operational data~~ for storing ~~manifold~~ operational data, ~~in particular, also~~ said operational data including the number of triggering commands to ~~the~~ a pyrotechnical final control element.

Amendments to the Drawings:

The attached sheets of drawings include changes to Figures 1-3. The attached sheets, which includes Figures 1-3, replaces original drawing sheets including Figures 1-3. In Figures 1-3, text labels have been added to certain boxes as required by the Examiner.

Attachments: Replacement Sheets for Figures 1-3

Annotated Sheets showing changes made

REMARKS

This Amendment is responsive to the Office Action mailed on August 4, 2005. Claims 1-20 are amended.

Claims 1-20 are allowed and prosecution on the merits has closed.

The Examiner has objected to the title of the application as not being descriptive of the claimed invention. The title is amended herein as required by the Examiner.

The Examiner has objected to the Abstract as not being in proper form. The Abstract is amended herein in accordance with the Examiner's requirements.

The Examiner has objected to Figures 1-3 as including unlabeled rectangular boxes. Applicants submit herewith replacement drawings for Figures 1-3 in which the rectangular boxes are now labeled as required by the Examiner.

Withdrawal of the objections to the title, abstract, and drawings is respectfully requested.

Discussion of Amended Claims

Claims 1-20 are amended herein to improve readability and to resolve potential antecedent basis problems in the claims. No new matter has been added to the claims.

Conclusion

The Examiner is respectfully requested to reconsider this application, allow each of the pending claims and to pass this application on to an early issue. If there are any remaining issues that need to be addressed in order to place this application into condition for allowance, the Examiner is requested to telephone Applicants' undersigned attorney.

Respectfully submitted,

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Atty. Docket No.: HOE-770
Date: September 21, 2005

PTO/SB/44 (04-05)
Approved for use through 04/30/2007. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,014,014

APPLICATION NO.: 10/645,327

ISSUE DATE : March 21, 2006

INVENTOR(S) : Mueller

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 10, line 37

Delete the "s" at the end of the word "pistons".

MAILING ADDRESS OF SENDER (Please do not use customer number below):

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PTO/SB/44 (04-05)
Approved for use through 04/30/2007. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

(Also Form PTO-1050)

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PATENT NO. : 7,014,014

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